

REMARKS/ARGUMENTS

Claims 1-71 are pending in this application, though claims 40-71 are withdrawn. Claims 1-8 and claims 10-18 are rejected under 35 U.S.C. 102(e), as being anticipated by U.S. Patent Publication No. 2004/0100263 ("Fanini" or "the '263 publication"). Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fanini in view of Minerbo (US 6,304,086). Claims 19-39 are objected to as being dependent on rejected base claims, but otherwise allowable. Applicant respectfully traverses each of those rejections.

Regarding the §102 and §103 rejections, Applicant contends the claims as originally filed are novel and non-obvious in view of the prior art references cited. Applicant respectfully disagrees with the Examiner's conclusion that Fanini discloses an apparatus comprising antennas having tilted coils. Fanini's invention is limited to transverse (and axial) antennas, that is, antennas having magnetic dipole moments oriented along an axis perpendicular (or parallel) to the tool axis (See '263, Abstract and ¶ 51 and 58.) The Examiner correctly notes Fanini discloses "a plurality of multi-component sensors comprising transmitters and receivers oriented at the x, y and z directions." (OA Summary mailed June 5, 2007, p.3.) The only mention of "tilt" in the paragraphs cited by the Examiner refers to the tilt angle of the borehole, not the tilt angle of an antenna. (See '263, ¶ 44.) Applicant, however, distinguishes between tilted and transverse antennas. For example the following excerpts were disclosed in the present application: "antennas having tilted or transverse coils"; and "instruments are thus implemented with a transverse or tilted magnetic dipole (TMD) antenna". (See 10/709,212 Application, ¶ 10) (emphasis added.)

In addition, Fanini fails to disclose that the antennas are oriented such that the at least one tilted magnetic dipole corresponds to a first azimuthal angle, as claimed by the present invention. For this and the reasons stated above, independent claim 1 is not anticipated. Because claim 1 is not anticipated, dependent claims 2-18 are likewise not anticipated.

The present invention, and particularly claim 9, is not obvious over Fanini in view of Minerbo because, for the reasons stated above, Fanini does not disclose all the required elements, and Minerbo fails to supply those missing elements. Thus, the Examiner has not made a *prima facie* case of obviousness, as required to maintain the objection.

Applicant appreciates the Examiner's indication that claims 19-39 would be patentable if rewritten to include the indicated limitations. Applicant declines to make such amendments at this time because Applicant believes the base claims are in condition for allowance for the reasons stated above.


For the foregoing reasons, Applicant submits that all the claims are in condition for allowance and request reconsideration of the present application and that the application be passed to issuance.

The Commissioner is hereby authorized to charge any fees or credit any overpayments related to this response to Deposit Account No. 190610.

The undersigned is available for consultation at any time, if the Examiner believes such consultation may expedite the resolution of any issues.

Respectfully submitted,

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